

We claim:

- 5 1. A security gate operating system apparatus, comprising:
a security gate capable of motion between a closed position and an open
position;
a drive mechanism attached to the security gate and adapted to provide a
driving force to the security gate to move the security gate between the closed
10 position and the open position;
an electrical drive motor having a drive shaft connected directly to the drive
mechanism without a reduction gear between the drive motor and the drive
mechanism.
- 15 2. The apparatus of claim 1, wherein the drive motor is a reluctance motor.
3. The apparatus of claim 1 wherein the drive motor is a switched reluctance motor.
4. The apparatus of claim 2 wherein the drive motor is a switched reluctance motor.
- 20 5. The apparatus of claim 1 wherein the drive motor is a three phase switched
reluctance motor.
6. The apparatus of claim 2 wherein the drive motor is a three phase switched
25 reluctance motor.
7. The apparatus of claim 3 wherein the drive motor is a three phase switched
reluctance motor.
- 30 8. The apparatus of claim 4 wherein the drive motor is a three phase switched
reluctance motor.
9. The apparatus of claim 1, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
35 a drive sprocket attached directly to the shaft of the drive motor, with the
drive sprocket in operative connection to the drive chain.

10. The apparatus of claim 2, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
5 drive sprocket in operative connection to the drive chain.
11. The apparatus of claim 3, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
10 drive sprocket in operative connection to the drive chain.
12. The apparatus of claim 4, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
15 drive sprocket in operative connection to the drive chain.
13. The apparatus of claim 5, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
20 drive sprocket in operative connection to the drive chain.
14. The apparatus of claim 6, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
25 drive sprocket in operative connection to the drive chain.
15. The apparatus of claim 7, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
30 drive sprocket in operative connection to the drive chain.
16. The apparatus of claim 8, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
a drive sprocket attached directly to the shaft of the drive motor, with the
35 drive sprocket in operative connection to the drive chain.

17. The apparatus of claim 1 wherein the drive mechanism comprises:
at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
- 5 18. The apparatus of claim 2 wherein the drive mechanism comprises:
at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
19. The apparatus of claim 3 wherein the drive mechanism comprises:
10 at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
20. The apparatus of claim 4 wherein the drive mechanism comprises:
at least one drive arm directly connected to the drive motor shaft and
15 operatively connected to the security gate.
21. The apparatus of claim 5 wherein the drive mechanism comprises:
at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
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22. The apparatus of claim 6 wherein the drive mechanism comprises:
at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
- 25 23. The apparatus of claim 7 wherein the drive mechanism comprises:
at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
24. The apparatus of claim 8 wherein the drive mechanism comprises:
30 at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.
25. A method of operating a security gate, comprising:
providing a security gate capable of motion between a closed position and
35 an open position;
utilizing a drive mechanism attached to the security gate to provide a driving

force to the security gate to move the security gate between the closed position and the open position;

utilizing an electrical drive motor having a drive shaft connected directly to the drive mechanism without a reduction gear between the drive motor and the
5 drive mechanism.

26. The method of claim 25, wherein the drive motor is a reluctance motor.

27. The method of claim 25 wherein the drive motor is a switched reluctance motor.
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28. The method of claim 26 wherein the drive motor is a switched reluctance motor.

29. The method of claim 25 wherein the drive motor is a three phase switched
15 reluctance motor.

30. The apparatus of claim 26 wherein the drive motor is a three phase switched reluctance motor.

20 31. A security gate operating system, comprising:

a security gate capable of motion between a closed position and an open position;

a drive mechanism attached to the security gate and adapted to provide a driving force to the security gate to move the security gate between the closed
25 position and the open position;

an electrical drive motor where the drive motor is a reluctance motor having a drive shaft connected to the drive mechanism

32. The apparatus of claim 31 wherein the drive motor is a switched reluctance
30 motor.

33. The apparatus of claim 31 wherein the drive motor is a three phase switched reluctance motor.